REMARKS

In the Office Action of March 19, 2004, claims 1, 2, 7, 17, 18, 23, 27 and 33 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (U.S. Patent 5,809,071) in view of Lee (U.S. Patent 6,055,119). Claims 3, 15, 19 and 32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Lee and further in view of Awata (U.S. Patent 5,638,409). Claim 1 is amended herewith to incorporate the limitations of former claim 3. Likewise, claim 17 is amended herewith to incorporate the limitations of former claim 19. Claim 1 as amended includes "a non-adaptive filter operable to receive the signal samples and to produce a filtered signal, the non-adaptive filter being operable to produce a precursor in the filtered signal, the precursor being an indicator preceding a signal sample to facilitate timing recovery." On page 4 of the Office Action, the Examiner acknowledges that this aspect of the invention is not taught by Kobayashi or Lee but asserts that it is taught by Awata, citing col. 2, lines 32-39. Applicant firstly submits that the element of Awata that involves a precursor is the impulse response estimating unit (IRE) 3 and that said impulse response estimating unit (IRE) 3 is an adaptive filter, rather than a non-adaptive filter as alleged by the Examiner. See column 3, line 57 of Awata. Furthermore (and, in part, due to the fact that the IRE 3 is adaptive rather than non-adaptive), the impulse response precursor of Awata is used differently than the precursor of amended claim 1. Specifically, in claim 1, the non-adaptive filter actually produces a precursor in the filtered signal that it outputs. That is, it inserts a precursor into the signal as part of its filtering operation. This is not the case in Awata. In Awata, the impulse response estimating unit (IRE) 3 estimates the impulse response of the signal/channel, including the precursor of the impulse response, and provides the estimated precursor (directly) to the timing recovery circuit 4. See, e.g., column 1, line 64 – column 2, line 2. The IRE 3 does not actually produce a precursor in the filtered signal that it outputs per claim 1. That is, referring to Figure 3 of Awata (and the accompanying text at column 2, line 40 – column 3, line 65), the impulse response precursor C_{-1} is not added to X_t (the signal received from the FFE 2), Y_t (the signal produced by subtracting the impulse response post-cursors from X_t), or the decision regarding the received symbol a_t. Instead, the precursor coefficient C_{-1} is provided to the timing recovery circuit 4. This providing of the precursor coefficient C_{-1} to the timing recovery circuit 4 further

distinguishes amended dependent claim 3 from Awata as amended claim 3 states that the feedforward equalizer of claim 1 does not directly affect the sampling phase setting of the timing recovery module of the receiver. Applicant further submits that the impulse response estimating unit (IRE) 3 shown in Figure 3 of Awata is not part of a feedforward equalizer, as called for in claim 1, but rather is a decision feedback equalizer. See column 2, line 41. For at least these reasons, Applicant submits that claim 1, and claims 2, 3, 7, 11 and 15 are allowable over the cited art.

Applicant further stands by the arguments made in the previous response, filed on August 20, 2007. Specifically, the Examiner asserts that Kobayashi teaches a feedforward equalizer per claim 1, citing the equalizer 3 in Figure 2 of Kobayashi. Applicant submits that the equalizer 3 of Kobayashi is not a feedforward equalizer. A feedforward equalizer is a term of art that is understood by those of skill in the art. Not all equalizers are feedforward equalizers. Applicant submits that this further distinguishes claim 1 over the cited art.

The Examiner further asserts that element 3a of Figure 2 of Kobayashi constitutes a non-adaptive filter per claim 1. Applicant submits that element 3a of Kobayashi is nowhere referred to as a filter, let alone a non-adaptive filter. Applicant submits that element 3a of Kobayashi is not a non-adaptive filter. The Examiner argues that the "filter" 3a of Kobayashi is non-adaptive because it is not explicitly described to be adaptively-controlled. However, if, for the sake of the Examiner's argument, the equalizer 3 of Kobayashi were a feedforward equalizer, and element 3a were a filter, it could be presumed that the filter was adaptive unless otherwise specified, because feedforward equalizers traditionally employ adaptive filters, as is explained in the last two paragraphs of page 23 of the specification. Applicant submits that this further distinguishes claim 1 over the cited art. Therefore, Applicant submits that claim 1, and claims 2, 3, 7, 11 and 15 depending therefrom, are allowable over Kobayashi, Lee and Awata.

Independent claim 17, and dependent claim 19, contain limitations similar to those that distinguish claims 1 and 3 over the cited art. Applicant submits that claim 17 and claims 18, 19, 23 and 27 depending therefrom, are allowable for the reasons set forth above with respect to claims 1 and 3.

In view of the foregoing, Applicant requests allowance of claims 1-3, 7, 11, 15, 17-19, 23
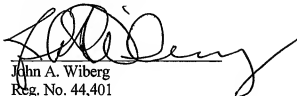
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and 27.

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